# Project Report

# Title:

Salesforce-Based Food Donation Management System — "Supply Leftover Food to Poor"

# 1 . Abstract

This project aims to develop a Salesforce-based application to connect food donors (such as restaurants, hostels, and event organizers) with NGOs and volunteers who distribute leftover food to the needy. The system ensures that surplus food is not wasted and is efficiently redirected to people in need. The application automates donor registration, food collection requests, NGO coordination, and delivery tracking through the Salesforce platform. Using Salesforce's CRM capabilities, the solution provides transparency, accountability, and real-time monitoring of donations.

# 2. Introduction

Food wastage is a major social and environmental issue. Every day, large quantities of food are discarded by restaurants, canteens, and households, while millions of people go hungry.

This project uses Salesforce CRM to create a centralized platform that brings together donors, NGOs, and volunteers. The system simplifies the process of donating leftover food by using Salesforce objects, automation,

workflows, and dashboards to track the food flow from donor to recipient.

# 3. Objectives

- To reduce food wastage and help the poor by managing surplus food efficiently.
- To provide an easy-to-use Salesforce application for food donors and NGOs.
- To automate donation requests, approvals, and delivery tracking.
- To maintain real-time data on available food and beneficiaries.
- To generate reports and dashboards for impact analysis and transparency

# 4. System Requirements Hardware Requirements

- Processor: Intel i3 or above
- RAM: 4 GB minimum
- Storage: 20 GB free space
- Internet connection

## Software Requirements

- Salesforce Developer Account (https://developer.salesforce.com)
- Web Browser (Chrome/Edge/Firefox)
- Basic knowledge of Apex, Lightning App Builder, and Flow

# 5. Modules of the System

User Management Module

- Registers and manages three types of users: Donors, NGOs, and Volunteers.

- Uses Salesforce roles and profiles for access control. Food Donation Module

- Donors submit details of leftover food (type, quantity, location).

- Automatic creation of a Food Donation record in Salesforce.

NGO Allocation Module ● System matches donations to nearby NGOs based on location and need.

- Uses Salesforce Flow or Apex Trigger for automatic allocation.

Volunteer Assignment Module

- Assigns volunteers to collect and deliver food.

- Volunteers update status via Salesforce Mobile App.

Tracking and Reporting Module

- Tracks donation lifecycle (Donated Collected → Delivered).

- Generates dashboards showing total donations, donors, and beneficiaries

# 6. Technologies Used

- Salesforce CRM Platform ● Apex Classes and Triggers
- Lightning App Builder

- Salesforce Flow and Process Builder
- Salesforce Reports & Dashboards

# 7. System Design

## ER Diagram (Conceptual Flow)

Donor —5 Food Donation NGO Volunteer Beneficiary

# Salesforce Objects

Donor_c

- Stores donor details

NGO_c

- Stores NGO details

Food_Donation_c

- Contains food item info

Volunteer__c

- Tracks volunteer availability

Delivery_c

- Records delivery updates

# 8. Workflow Description

- Donor creates a food donation record.
- Salesforce Flow checks for nearby NGOs.
- NGO receives automatic notification (email alert).
- Volunteer is assigned to collect food.
- Delivery is confirmed, and record is marked "Completed." • Reports and dashboards show metrics like:

- Total Donations
- Total Beneficiaries Served
- Food Collected vs. Delivered

# 9. Expected Outcomes

- Efficient management of leftover food through Salesforce automation.
- Easy coordination between donors, NGOs, and volunteers.
- Reduced food wastage and increased social impact.
- Data-driven transparency with dashboards and reports.

# 10. Advantages

- Cloud-based (accessible from anywhere).
- No need for separate infrastructure.
- Automated workflows reduce manual effort.
- Real-time visibility and accountability

# 11. Future Enhancements

- Integration with Google Maps API for real-time location tracking.
- SMS/WhatsApp notification for donors and volunteers. ● AI-based prediction of high-demand areas for food distribution.
- Mobile-first responsive Lightning App.

# 12. Conclusion

This Salesforce-based Food Donation Management System demonstrates how CRM technology can be applied to social good. By connecting food donors with NGOs and volunteers, it minimizes wastage and ensures that food reaches those who need it most. The solution's scalability, automation, and cloud features make it a sustainable approach to fighting hunger.

# 13. References

- Salesforce Developer Documentation — https://developer.salesforce.com/docs
- Salesforce Trailhead Modules on Flow, Apex, and Lightning App Builder.
- UN Food Waste Report 2024 — World Food Programme.
- NGO Coordination Guidelines, Government of India.

# Project steps

Step 2: Create a New App

1. Navigate to Setup App Manager New Lightning App.
2. App Name: Food Donation Management
3. Description: "A Salesforce app to manage leftover food donations for the poor."
4. Choose Lightning Experience Navigation Style.
5. Add custom objects and tabs (created later).
6. Save and open the app in App Launcher.

Step 3: Create Custom Objects

You'll need several objects to store data.

Go to Setup    Object Manager Create    Custom Object.

| Object Name | API Nat-ne | Purpose |
| --- | --- | --- |
| Donor | Donor_c | To store donor details |
| NGO | NGO_c | To store NGO details |
| Food Donation | Food_Donation **C** | To record donated food items |
| Volunteer | Volunteer_c | To manage volunteer details |
| Delivery | Delivery_c | To track pickup and delivery status |

✔ Enable: "Allow Reports," "Allow Activities," and "Track Field History" for each object.

## Step 4: Create Fields for Each Object

Donor c

- Donor_Name (Text)
- Contact_Number (Phone)
- Email (Email)
- Address (Text Area)

NGO_c

- NGO_Name (Text)
- Contact_Person (Text)
- Phone (Phone)
- Location (Text)
- Capacity (Number)

Food_Donation—C • Donor

  (Lookup Donor_c)

- Food_Type (Picklist: Cooked, Packed, Bakery, Fruits, etc.)
- Quantity (Number)
- Location (Text)
- Status (Picklist: New, Assigned, Picked Up, Delivered) •
  Assigned_NGO (Lookup NGO_c)

Volunteer c

- Volunteer_Name (Text)
- Phone (Phone)
- Assigned_Area (Text) • Availability (Checkbox) Delivery_c
- Food_Donation (Lookup Food_Donation_c)
- Volunteer (Lookup Volunteer_c)
- Pickup_Time (Date/Time)
- Delivery_Time (Date/Time)
- Status (Picklist: Pending, Completed)

## Step 5: Create Relationships

- In Food_Donation_c, create a Lookup Relationship to Donor and NGO.
- In Delivery_c, create Lookup Relationships to Food_Donation and Volunteer.
- This ensures connected records and clear tracking from donor foodl NGO →delivery.

## Step 6: Create Tabs for Custom Objects

1. Go to Setup Tabs New Custom Object Tab.
2. Select each custom object (Donor, NGO, Food Donation, Volunteer, Delivery).
3. Choose an icon and assign to your Food Donation Management app.

## Step 7: Create Lightning Record Pages

1. Open each object Lightning Record Pages New Page.
2. Customize layout with fields and related lists (using Lightning App Builder).
3. Example: On the Food Donation record page, show related NGO and Delivery info.

## Step 8: Automate Workflow (Using Salesforce Flow or Process Builder)

Option 1: Salesforce Flow

- Trigger: When a new Food Donation record is created.
- Action:
- Auto-assign nearby NGO (based on Location or Availability).
- Change Status field to "Assigned."
- Send an Email Alert to NGO contact.

Option 2: Process Builder (Simpler Option)

- Object: Food_Donation_c .
- Criteria: [Status = New] . Actions:
- Update field Assigned_NGO. .
- Send Email Alert to NGO.

## Step 9: Create Validation Rules

To maintain data accuracy:

- Example: On Food_Donation c , ensure Quantity > O.
- Example: On Volunteer_c , ensure phone number is filled if Availability = TRUE. Step

## 10: Create Reports and Dashboards

1. Go to Reports New Report.
   - Example Reports:
   - "Total Food Donations by Donor"
   - "Donations Delivered This Week"
   - "Active NGOs by Location"

2. Go to Dashboards New Dashboard.

• Add charts like: Pie chart (Donations by Type), Bar chart (Deliveries Completed).
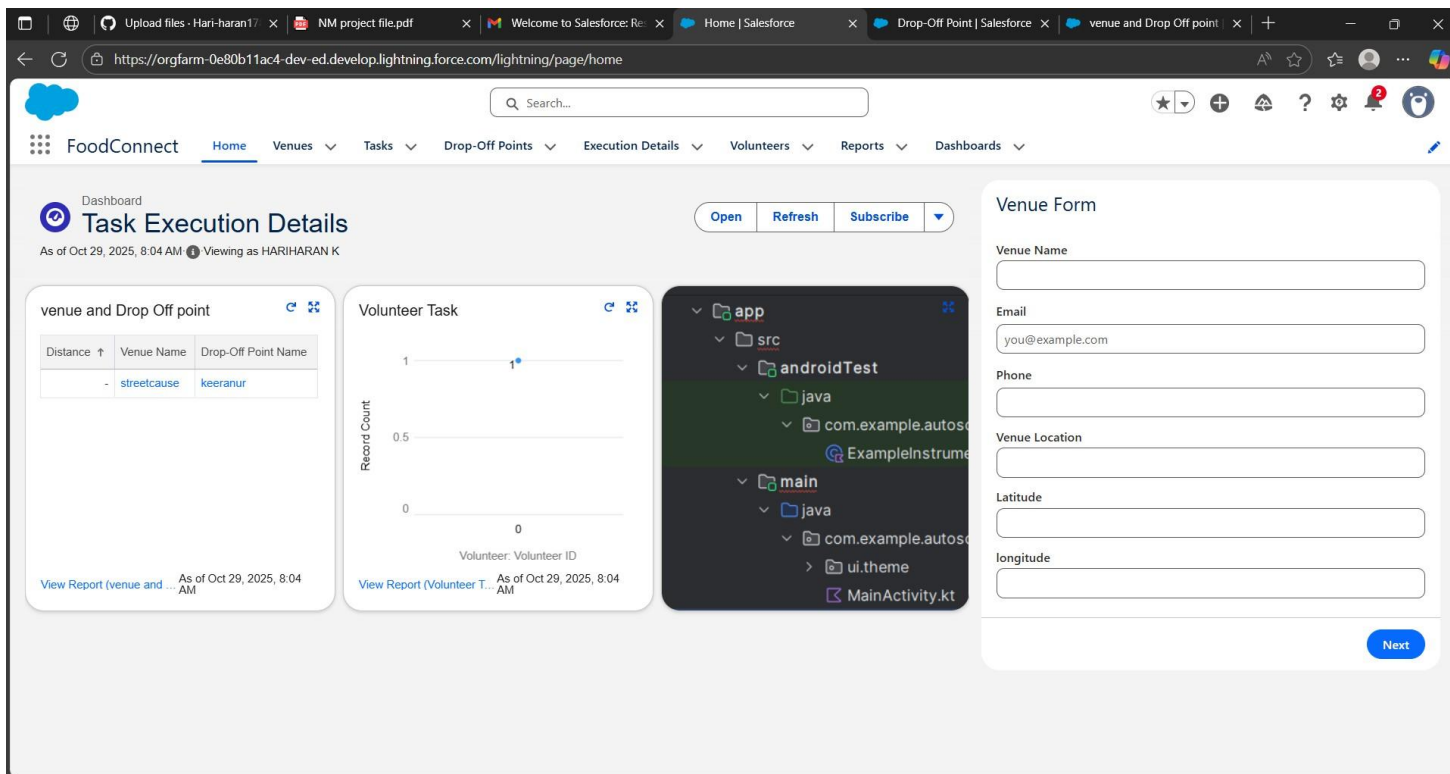
## Step 11: Test the System

1. Log in as Admin create sample Donor, NGO, and Volunteer records.

2. Create a new Food Donation record.

3. Verify that NGO and Volunteer are auto-assigned.

4. Check that workflow sends email and updates status.

5. Run reports and view dashboards.

## Step 12: Deploy or Share

• Keep it in Developer Org for demo and submission.

• Optionally, you can export the app using Change Sets or Salesforce CLI.

• Share access with your instructor using Read-Only profile or demo login.

## Step 13: Documentation & Screenshots

**HOME PAGE**



**VENUES**

**TASKS**

**DROP-OFF POINTS**



**EXECUTION DETAILS**



**VOLUNTEERS**

**REPORTS**



**DASHBOARDS**

Upload files - Hari-haran17 | NM project file.pdf | M Welcome to Salesforce: Re | All Dashboards | Dashboard | Drop-Off Point | Salesforce | venue and Drop Off point

https://orgfarm-0e80b11ac4-dev-ed.develop.lightning.force.com/lightning/o/Dashboard/home?queryScope=everything

**FoodConnect**   Home   Venues ∨   Tasks ∨   Drop-Off Points ∨   Execution Details ∨   Volunteers ∨   Reports ∨   Dashboards ∨

Dashboards
## All Dashboards
4 items

Search all dashboards...    New Dashboard   New Folder

| | Dashboard Name ∨ | Description ∨ | Folder ∨ | Created By ∨ | Created On ∨ | Subscribed |
|---|---|---|---|---|---|---|
| DASHBOARDS | Enablement Dashboard | View data on how Enablement helps drive your business outcomes. This is your main dashboard for all Enablement analytics. Don't delete it. If you want to make changes to this dashboard, duplicate it. | Enablement Dashboard Spring '24 | Automated Process | 10/21/2025, 4:06 PM | ⊙ |
| Recent | | | | | | |
| Created by Me | | | | | | |
| Private Dashboards | | | | | | |
| **All Dashboards** | Enablement Dashboard | View data on how Enablement helps drive your business outcomes. This is your main dashboard for all Enablement analytics. Don't delete it. If you want to make changes to this dashboard, duplicate it. | Enablement Dashboard Summer '24 | Automated Process | 10/21/2025, 4:06 PM | ⊙ |
| FOLDERS | | | | | | |
| All Folders | | | | | | |
| Created by Me | Organization Details | | Private Dashboards | HARIHARAN K | 10/28/2025, 7:50 AM | ⊙ |
| Shared with Me | | | | | | |
| FAVORITES | Task Execution Details | | Custom Dashboards | HARIHARAN K | 10/28/2025, 7:52 AM | ⊙ |
| All Favorites | | | | | | |

---

Upload files - Hari-haran17 | NM project file.pdf | M Welcome to Salesforce: Re | All Folders | Dashboards | S | Drop-Off Point | Salesforce | venue and Drop Off point

https://orgfarm-0e80b11ac4-dev-ed.develop.lightning.force.com/lightning/o/Dashboard/home?queryScope=userFolders

**FoodConnect**   Home   Venues ∨   Tasks ∨   Drop-Off Points ∨   Execution Details ∨   Volunteers ∨   Reports ∨   Dashboards ∨

Dashboards
## All Folders
3 items

Search all folders...    New Dashboard   New Folder

| | Name ∨ | Created By ∨ | Created On ∨ | Last Modified By ∨ | Last Modified Date ∨ | |
|---|---|---|---|---|---|---|
| DASHBOARDS | 📁 Custom Dashboards | HARIHARAN K | 10/28/2025, 7:23 AM | HARIHARAN K | 10/28/2025, 7:23 AM | ⊙ |
| Recent | | | | | | |
| Created by Me | 📁 Enablement Dashboard Spring '24 | Automated Process | 10/21/2025, 4:06 PM | Automated Process | 10/21/2025, 4:06 PM | ⊙ |
| Private Dashboards | | | | | | |
| All Dashboards | 📁 Enablement Dashboard Summer '24 | Automated Process | 10/21/2025, 4:06 PM | Automated Process | 10/21/2025, 4:06 PM | ⊙ |
| FOLDERS | | | | | | |
| **All Folders** | | | | | | |
| Created by Me | | | | | | |
| Shared with Me | | | | | | |
| FAVORITES | | | | | | |
| All Favorites | | | | | | |